
JOINT USERS RESOURCE ALLOCATION
PLANNING (JURAP) MEETING
March 20, 2003

Jet Propulsion Laboratory
California Institute of Technology

4800 Oak Grove Drive
Pasadena, CA 91109-8099

(818) 354-4321

April 16, 2003
Refer to: 930-03-011-AEA/ESB:lc

TO: Distribution

FROM: Eugene S. Burke

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held March 20, 2003.

NEXT JURAP MEETING:
Thursday, April 17, 2003
JPL Bldg. 303, Room 401 – 1:00 p.m.

Attendees:

Andujo, A.	Doody, D.	Martinez, G.	Valencia, J.
Baldwin, J.	Hampton, E.	Ryan, R.	Waldherr, S.
Brymer, B.	Lacey, N.	Ryne, M.	
Compton, B.	Lineaweaver, S.	Slade, M.	

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts. The last regular meeting was held on March 20, 2002 at the Jet Propulsion Laboratory.

Introductory Remarks / Conflict Resolutions – N. Lacey for E. Burke
Nap welcomed the attendees to the JURAP meeting and informed that Gene Burke and Dave Morris were out of town on business, that Jose Valencia has decided to leave the RAPSO Team, and that a downtime request for DSS-27, DSS-46, DSS-25 and DSS-45 would be presented at this meeting by J. Valencia and S. Lineaweaver.

RARB Action Items – N. Lacey for D. Morris
Action Item #2 is now closed, S. Lineaweaver presented the JURAP members with the downtime proposal for DSS-45. All but one Action Item remains open; work seems to be proceeding as expected.

Special Reports

DSN Downtime Request for DSS-27, DSS-46 and DSS-25 – J. Valencia

- A downtime proposal has been prepared for DSS-27 to perform Configuration Control Group (CCG) Microwave Switch Replacement. The time previously proposed and agreed to, in week 23 DOY 155-157 is no longer available due to requirement changes by MEX. The time proposed is in week 21of 2003, DOY 141-143.
- A downtime proposal has been prepared for DSS-46 to perform Heating Ventilation and Air Conditioning (HVAC) work. The time proposed is in week 34 of 2003, DOY 229- DOY 234.
- Another downtime proposal has been prepared for DSS-25 to perform Microwave Subsystem Controller (USC) installation. The time proposed is in week 08 and 09 of 2005, DOY 52- DOY 64.

These downtime requests were submitted to the JURAP members and were approved. RAP scheduling has so far been able to make the time available with little or no impact to the Projects.

Note: During the preparation of these minutes a request for the DSS-27 CCG downtime to move to a later date has been received. The new date has not yet been agreed upon.

DSN Downtime Request for DSS-45 – S. Lineaweaver

- A downtime proposal has been prepared for DSS-45 to perform Antenna Controller Replacement. The time proposed is in week 43 of 2004 DOY 292-339. All affected Projects have been contacted and there are no major foreseeable problems.

This downtime request was submitted to the JURAP members and approved. RAP scheduling has been able to make the time available.

Resource Analysis Team – A. Andujo

The following is a list of changes to the DSN Mission Planning Set:

- Launch date for MUSES-C has been changed to 05-07-03
- Launch date for Deep Impact has changed to 12-31-04
- Names for MERA and MERB have changed to MER2 and MER1 respectively
- Mars Competed Scout 2007 support dates have changed to 08-19-07 for launch, 08-23-08 for EOPM, and 08-22-10 for EOEM
- James Webb Space Telescope (JWST) has been added to the Mission Set.
- Space Interferometry Mission (SIM) has been added to the Mission Set

For a complete listing of Ongoing and Advanced Planning Projects visit the following link for the RAPSO website. http://rapweb.jpl.nasa.gov/tmodmiss.pdf

The following is a list of changes to the DSN Resource Implementation Planning Matrix:

- DSS-14 NSP availability 05-13-03
- DSS-15 NSP availability 04-10-03
- DSS-24 NSP and 20kW X-band now available
- DSS-25 NSP available 03-09-03 and 20kW X-band availability 09-01-03
- DSS-45 NSP availability 05-03-03
- DSS-54 NSP availability 05-13-03

For a complete listing of the DSN Resource Implementation visit the following link for the RAPSO website. http://rapweb.jpl.nasa.gov/tmodplns.pdf

The following studies have been completed:

- M01O Extended Mission Load Study
- MGS Extended Mission Load Study
- SIRTF Load Study based on a 04-15-03 Launch

DSS Downtime Forecast – J. Valencia

The approved DSS-66 and DSS-16 downtime for Hydraulic Servo task has been deleted from 2003 and is in re-planning, the reason cited was due to budgetary concerns

J. Valencia reviewed the downtimes approved at the February 2003 RARB, they are as follows:

- DSS-14 downtime for Hydrostatic Bearing upgrade/USC task in 2004.
- DSS-15,24,26,27 downtime for USC in 2005
- DSS-34 downtime for X/X-Ka Band in 2005
- DSS-43, DSS-63 downtime for Antenna Controller Replacement in 2005
- DSS-24 downtime for X/X-Ka Band in 2006

At this time there are no open downtime proposals. Please see the attached downtime report for complete listing of downtime or visit the following link on the RAPSO website: http://rapweb.jpl.nasa.gov/planning.htm

DSN Operations – J. Buckley

There was no presentation given at this month's JURAP.

Goldstone Solar System Radar – M. Slade

Dr. Slade reported that there were three abstracts submitted to International Astronomical Union general Assembly as a result of the work performed from the GSSR project, "Mercury Interior Properties From Measurements Of Librations", "Radar Imagery of Mercury;" and "Goldstone to Arecibo X-band Observations of Mercury's North Polar Regions."

Dr. Slade discussed the GSSR tests of MSPA scheduled for March 22 and 28, 2003.

The Mars Landing Site data analysis software for four-station radar interferometry is now

converging to what appears to be correct topography.

Radio Astronomy / Special Activities – G. Martinez
Four TEMPO activities were reported during the last two months yielding 92% data capture; although one suffered from high winds and a recorder problem, the other three were successful. There were two Cat M&E activities; one suffered a hardware malfunction, but managed to gather 98.2% data. There was one successful EVN observation, E005A, resulting in 100% data collection. There was one successful Gravity Probe-B observation, BR088A at DSS14 and DSS-63, resulting in 100% data capture.

JURAP Science Advisor – E. Smith
There was no presentation given at this month's JURAP.

FLIGHT PROJECTS REPORTS

Chandra – K. Gage
There was no presentation given at this month's JURAP.

Voyager – N. Lacey for J. Hall
It was reported that both Voyager spacecraft are healthy and all operations are nominal. Overall DSN support was reported as good.

Cassini – D. Doody
It was reported that the spacecraft and Huygens Probe are in good health and all operations are nominal, and DSN support has been excellent. NSP operations are going well, DEMO's continue with new NSP stations. The Cassini Project, along with other missions, has been trying to identify a replacement for the capability of viewing real-time DMD monitor data that was made inoperative by the NSP. It is yet to be seen if the NMC will provide the lost capability. Space Science observations were interrupted for Flight software installation and checkout. The 40-day Gravity Wave Experiment # 2 was successfully completed, with acquisition of 93% of expected data (99% at MDSCC). Photos from the Cassini spacecraft made the cover as well as an ISS Article in Science Vol. 299, March 7, 2003. The Superior Conjunction RS Experiment is scheduled for 30 days in June - July. Tour advanced science planning continues. The Cassini Project is investigating the possibility of an extended mission. AACS Flight software for Tour was installed, and its checkout was completed successfully. CDS Flight software for Tour was loaded aboard with Swap and checkout is to begin soon.

ISTP, WIND, POLAR, SOHO, GEOTAIL, Cluster II – A. Chang
There was no presentation given at this month's JURAP.

NOZOMI – M. Ryne
At this time, the Nozomi spacecraft is out of DSN contact, with the High-Gain Antenna off Earth point due to power and thermal issues. The Low-Gain Antenna is available for commanding to turn the spacecraft at an opportune time. Tracking is expected to resume on April 27, 2003, but at this time it is uncertain when favorable antenna geometry will allow for communication with

the spacecraft. The current tracking schedule has been confirmed with ISAS through June 29, 2003. As of now the Mars arrival date will be determined sometime after Earth Swingby on June 19, 2003.

MAP, ACE, and IMAGE, Genesis – S. Waldherr
All spacecraft are in good health and are on mission. There is a new request being submitted by the ACE project to increase support to 3.5 hours per day on the 34-meter subnet for approximately ten days every 3 months. This is due to the SEV (Sun-Earth-Vehicle) angle being too small to maintain the telemetry data rate on the 26-meter subnet as well as DSS-27. The predicted minimum SEV angels are June 13, September 12, and December 8, 2003. At this time the Project is determining the smallest SEV angle where telemetry can be maintained at both 34-meter and 26-meter subnets.

Mars Global Surveyor – E. Brower
There was no presentation given at this month's JURAP

Mars Odyssey – B. Mase / P. Poon
There was no presentation given at this month's JURAP.

INTEGRAL – D. Holmes
There was no presentation given at this month's JURAP.

Ulysses – B. Brymer
It was reported that an autonomous switchover from the electronic power converter 2/Traveling Wave Tube Amplifier 2 (EPC2/TWT2) to EPC1/TWT1 occurred on February 16. A planned switchback to EPC2/TWT2 failed. A manual switch was then performed successfully. There is no unusual power draw seen, therefore it is believed that the spacecraft is in good shape. At this time the Project is analyzing the situation and its impact to the mission. It is believed that a logic problem in the crossover logic is the most likely cause of the problem, but the Project has not ruled out a mechanical switch failure on the TWT. The Project is confident it can manage another such switchover manually if need be. The Project has announced that they are looking to extend the mission out to 2008. Project Managers have prepared a proposal and feel confident that it will be approved.

Galileo – B. Compton
Playback was terminated February 28, 2003. The spacecraft has been configured to operate without ground intervention throughout its final orbit and ultimate impact into Jupiter on September 21, 2003. The J35 science sequence, which instructs the spacecraft to impact into Jupiter, is onboard and awaiting execution about 19 hours before impact. A contingency sequence is also onboard that could be kicked off 9 hours before impact. The Galileo team no longer monitors the spacecraft and has instituted "passive monitoring," where the OPS Chief routinely monitors the weekly tracking passes and is provided a contact list in the event of problems. At this time the Project will continue to negotiate additional tracking time just prior to impact.

The Galileo Project again extends its thanks for the cooperation they have received and continue

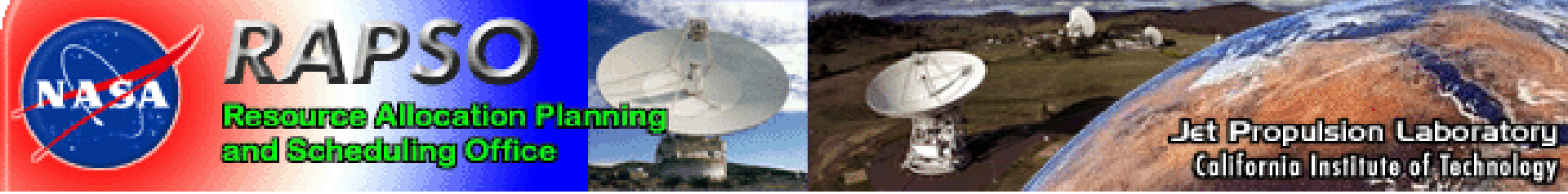
to receive from the other Projects/users and the Resource Allocation Planning team.

Stardust - R. Ryan
The Stardust spacecraft is healthy. DSN support has been very good with some exceptions. Interstellar collection period has been completed and the collection gel has been covered. Navigational-Camera periscope calibration is scheduled for January.

Pioneer 10 - R. Ryan
There has been no contact with the Pioneer 10 spacecraft in either of the two attempts this year. It is assumed that RTG power output has dropped below the level required for the communication system. The last attempted contact was a roundtrip cycle on December 4 and 5, 2002, at a distance of about 82AU, 22:25 RTLT. Goldstone uplink was at 350kW, Madrid found the signal but could not lock on to telemetry; the signal level was -183 dbm with a -0.6 to -1.3 db margin. Arecibo participated and reported the signal was weaker than what they saw in their March '02 observation.

In light of the spacecraft health and capabilities, it has been decided to end the Pioneer 10 mission. After more than 30 years the Ames Research Center has ceased Pioneer 10 operations. For more information see the press release from February 25, 2003.
http://amesnews.arc.nasa.gov/releases/2003/03_13AR.html

The Project wishes to thank all who have participated over the years.



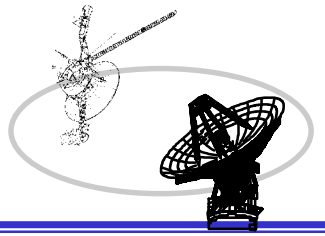
Joint Users Resource Allocation Planning (JURAP) Meeting

March 20, 2003

Action Item Status From August 13, 2002 and February 11, 2003 RARB

(Resource Allocation Review Board)

David G. Morris



Action Item Summary

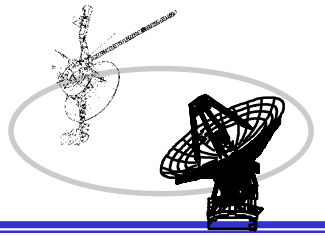
AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
01	**2003-2004**	**December-April**	**Mars Program**	**B. Arroyo**	**06/01/2003**	**Open**

ACTION: (aka 8/13/02 RARB A.I. #7) Multi-mission DSN Allocation and Planning (MDAP) provide a Mars Program coordinated input to Resource Allocation (Mid-Range) Planning Team (RAPT) of at least one week per week at least 6 months prior to the schedule week. This action will use the result of Action Item 6 to clarify the scope of resources in which to plan to.

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
02	**2004**	**October-December**	**RAPSO**	**S. Lineaweaver**	**04/20/2003**	**Pending**

ACTION: Analyze proposed DSS-45 downtime (10/18/2004 – 12/05/2004) for Antenna Controller Replacement (ACR) and Microwave Switch Controller (USC).

RESPONSE: (4/20/03) Presentation of contention analysis due at March JURAP meeting.



Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
03	**2005**	**April-May**	**Cassini**	**D. Seal**	**02/25/2003**	**Closed**

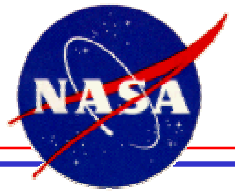
ACTION: Provide Cassini Occultation Plans regarding DSS-25 planned downtime.

RESPONSE: (02/18/03) Information provided showed Cassini's need for DSS-25 prior to February 19 and after April 30.

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
04	**2005**	**July-August**	**Mars Express**	**T. Thompson**	**04/10/2003**	**Closed**

ACTION: Provide impact to Mars Express requested weekly Bi-Static Radio Science requirement during planned DSS-43 downtime.

RESPONSE: (2/19/03) Mars Express requests that the Bi-Static experiments be moved to another 70M antenna in each week that DSS-43 is down. When using another 70M antenna, continue to use the same 70M antenna for several weeks versus having DSS-63 one week and DSS-14 the next



JPL

Joint Users Resource Allocation Planning

20 March 2003

Proposal:

DSS-45

Antenna Controller

Replacement

Susan Lineaweaver
Resource Allocation Planning & Scheduling Office
Interplanetary Network Directorate

Events

DSS-14 approved downtime (hydrostatic bearing, weeks 43 – 47)

DSS-45 proposed downtime (antenna controller, weeks 43 – 49)

Cassini tour

Genesis backup orbit support in weeks 43 and 44

GPB BR088n SOC-M4 observation in week 48

Lunar-A LEOP

Mars Express solar corona and orbital science

Stardust TCM support in weeks 43 and 44

SOHO TSO support in weeks 45 and 49

ST-5 launch in weeks 47 and 48

Voyager 1 MAGROL DOY 310 and week 48 replay of week 44 DTR P/B

Voyager 2 MAGROL in week 44

Wilkinson MAP maneuver in week 46

Recommendations

Approve DSS-45 downtime in weeks 43 through 49

Cluster remove DSS-45 from MSO and SSO requests

GBRA move the week 43 DSS-45 Host Country support to week 41 and week 49 support to week 50

MGS change resource allocation from DSS-15,45,55 to DSS-15,34,55

RFC move the DSS-15\45 CAT M&E from week 44 to week 42, the DSS-15/65 support from week 45 to week 43, the week 48 support to week 50, and the week 49 support to week 51.

SGP move the week 43 and 46 Crustal Dynamics supports to weeks 40 and 41

SIRTF change resource allocation from 34H to DSS-15,34,65

Stardust change resource allocation from 34H to DSS-15,65

Voyager 2 change resource allocation from DSS-43,45 to DSS-43,34

Analysis

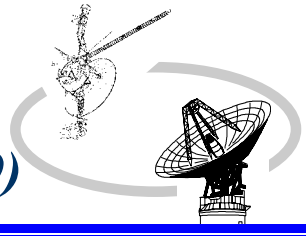
The proposed downtime at DSS-45 causes contention with requirements supporting Cluster MSO and SSO, DSN antenna calibration, GBRA Host Country, Mars Global Surveyor, RFC CAT M&E, SIRTF, SGP Crustal Dynamics, Stardust, and Voyager 2 routine support

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

Resource Analysis Team

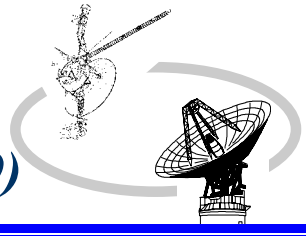
March 20, 2003

Kevin Kim



◆ RESOURCE NEGOTIATION STATUS

- 2003 WEEKS 19 – 20 (THRU 05/18/2003) WAS RELEASED TO DSN ON 03/17/2003.
- 2003 WEEKS 21 – 22 (THRU 06/01/2003) IS DUE TO BE RELEASED ON 03/28/2003.
- 2003 WEEKS 37 – 40 (THRU 10/05/2003) WILL GO INTO NEGOTIATIONS STARTING 04/11/2003.



- **SPECIAL STUDIES/ACTIVITIES**
  - M01O EXTENDED MISSION LOAD STUDY
  - MGS EXTENDED MISSION LOAD STUDY
  - SIRTF LOAD STUDY BASED ON 04/15/2003 LAUNCH

- **ON-GOING ACTIVITIES**
  - MADB/TIGRAS TESTING AND TRAINING
  - DOWNTIME PLANNING
  - LUNAR-A LOAD STUDY REDO DUE TO CHANGED LAUNCH
  - MESSENGER LOAD STUDY
  - MRO LOAD STUDY
  - ST5 LOAD STUDY
  - ULYSSES EXTENDED MISSION LOAD STUDY

- **RARB – FEBRUARY 11, 2003**
  - RARB REDBOOK FINAL v2.1 IS POSTED ON RAPWEB.

- **RARB - AUGUST 12, 2003**
  - NEW TIMELINE BEING PREPARED.

HTTP://RAPWEB.JPL.NASA.GOV

DSN Antenna Downtime Status and Forecast

J. Valencia

March 20, 2003

http://rapweb.jpl.nasa.gov/planning

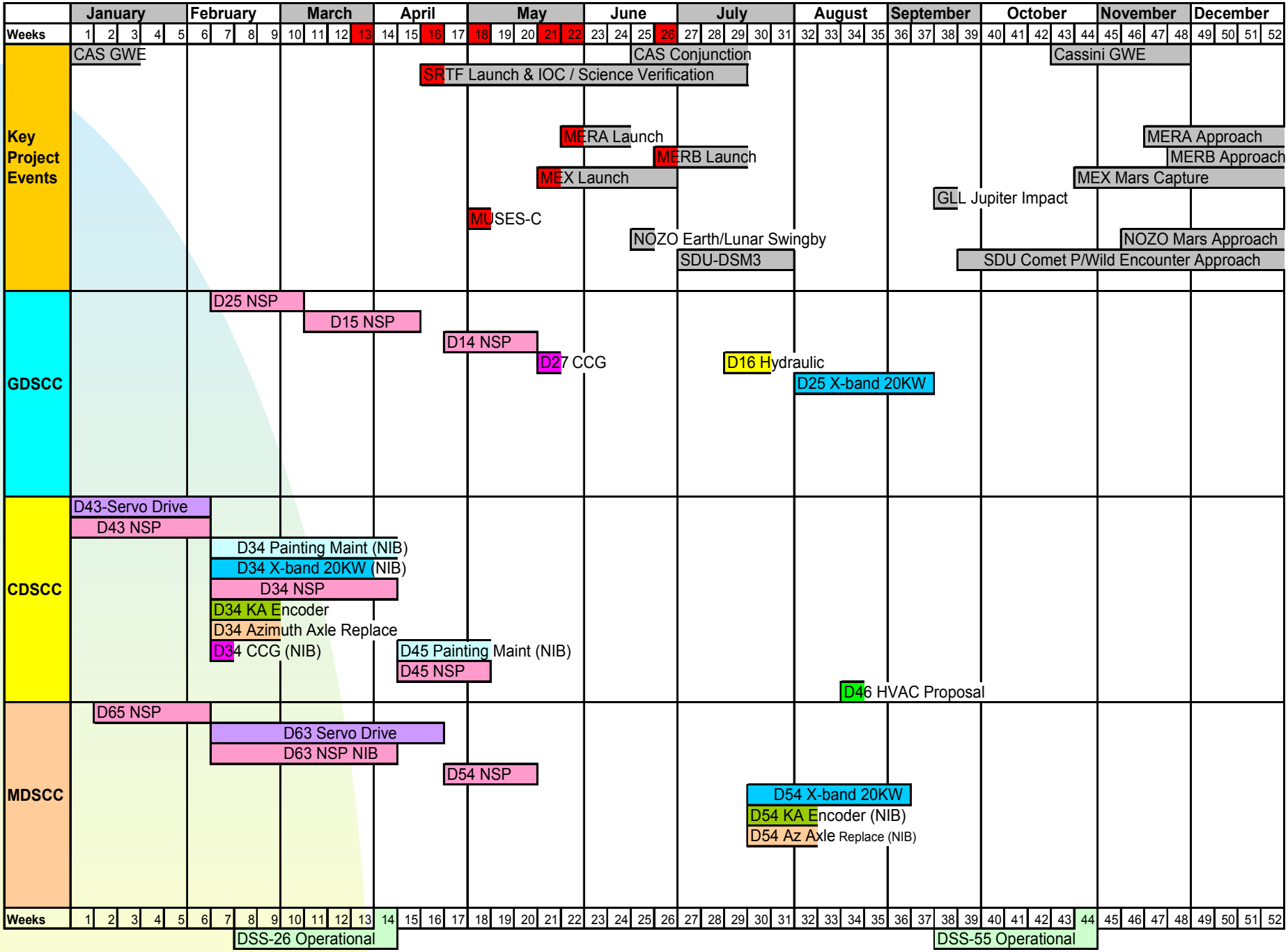
Antenna Downtime Status and Forecast 2003

- Approved DSS-66 downtime for Hydraulic Servo task has been deleted from 2003 and is in re-planning.
- Approved DSS-16 downtime for Hydraulic Servo task has been deleted from 2003 and is in re-planning.

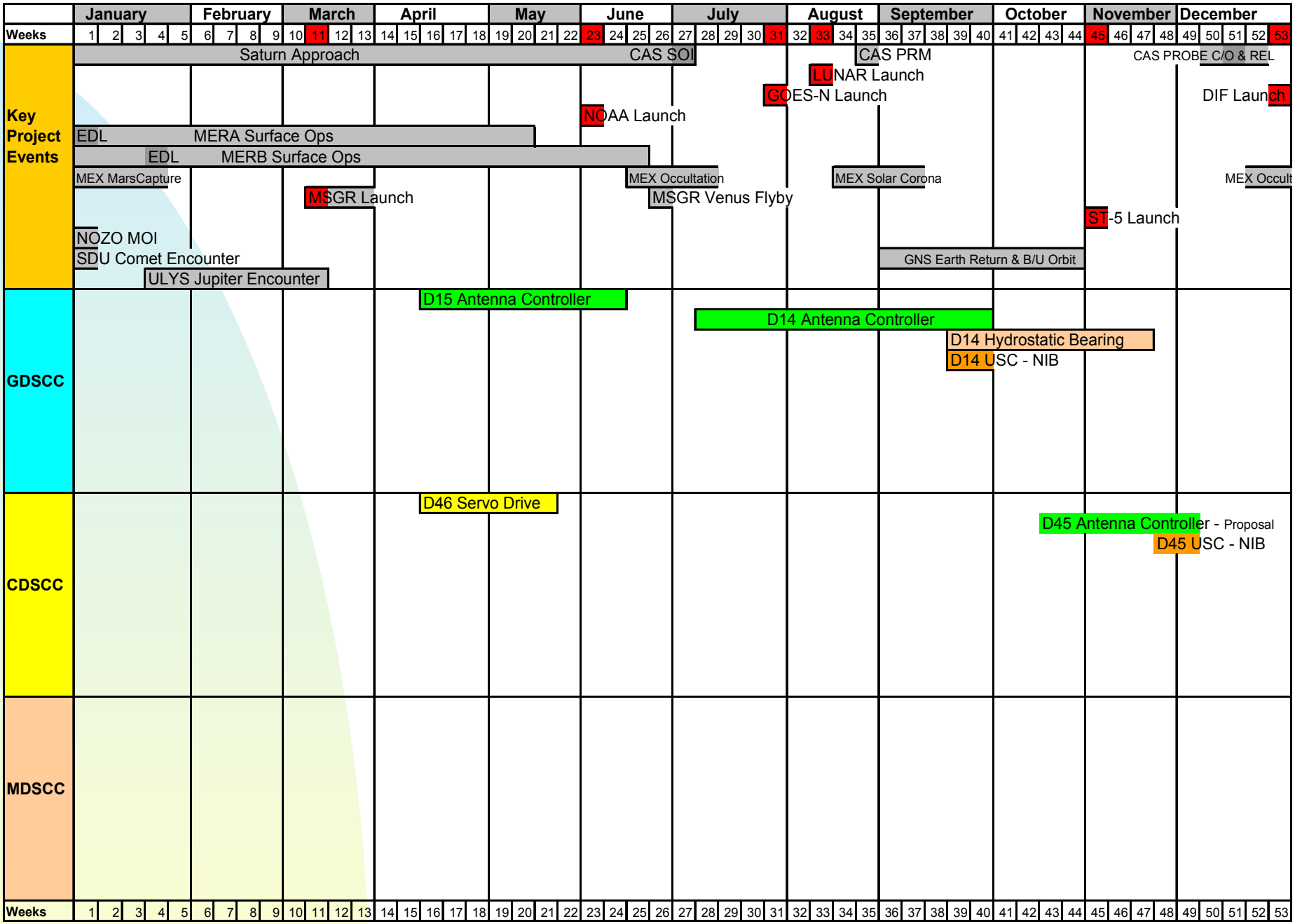
Antenna Downtime Status and Forecast

The antenna down times listed below were approved at February 2003 RARB

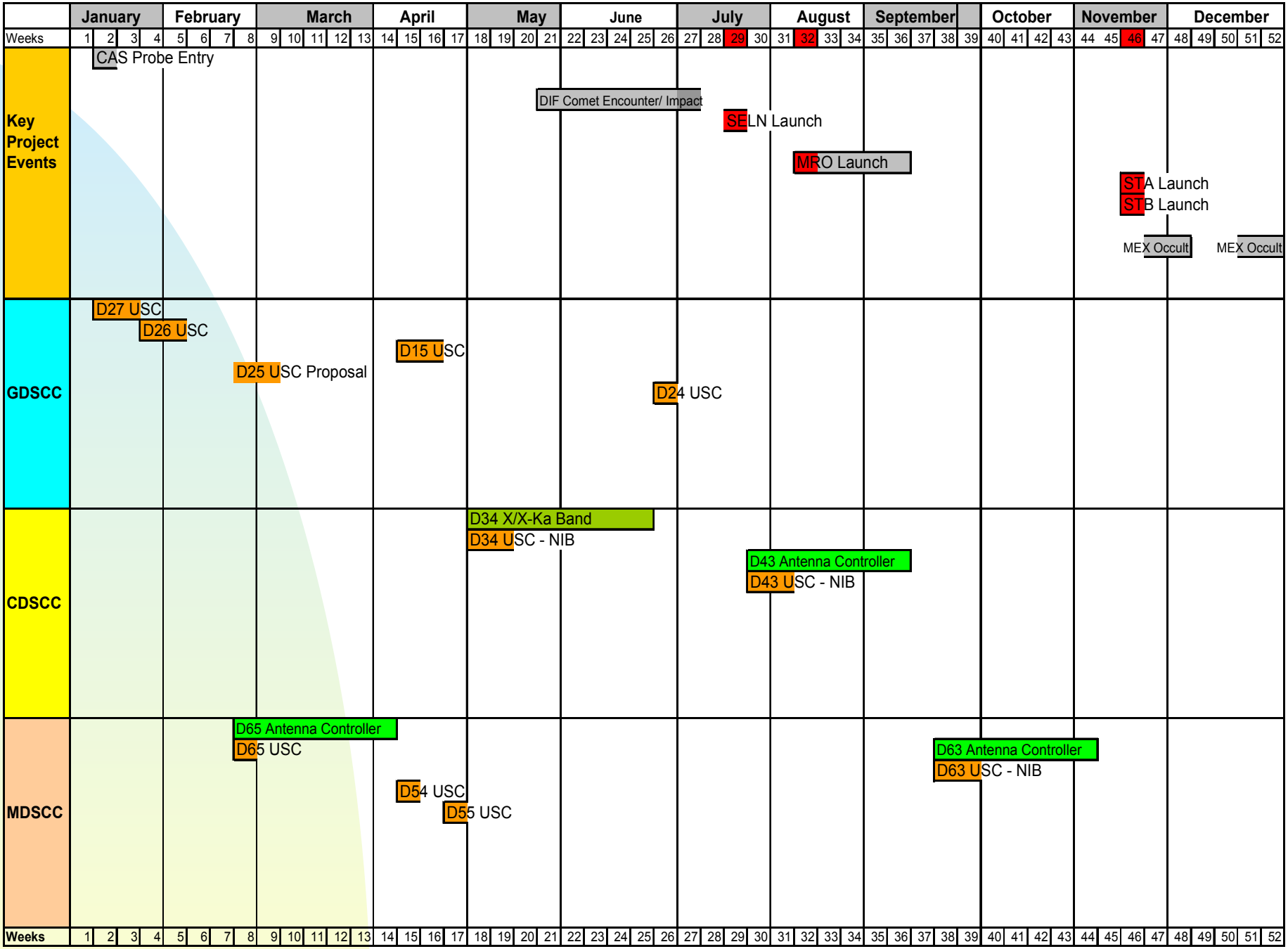
- DSS-14 downtime for Hydrostatic Bearing upgrade/USC task in 2004.
- DSS-15,24,26,27 downtime for USC in 2005
- DSS-34 downtime for X/X-Ka Band in 2005
- DSS-43, DSS-63 downtime for Antenna Controller Replacement in 2005
- DSS-24 downtime for X/X-Ka Band in 2006


January
February
March
April
May
June
July
August
September
October
November
December
Weeks
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
Key Project Events
CAS GWE
CAS Conjunction
Cassini GWE
SRTF Launch & IOC / Science Verification
MERA Launch
MERA Approach
MERB Launch
MERB Approach
MEX Launch
MEX Mars Capture
GLL Jupiter Impact
MUSES-C
NOZO Earth/Lunar Swingby
NOZO Mars Approach
SDU-DSM3
SDU Comet P/Wild Encounter Approach
GDSCC
D25 NSP
D15 NSP
D14 NSP
D27 CCG
D16 Hydraulic
D25 X-band 20KW
CDSCC
D43-Servo Drive
D43 NSP
D34 Painting Maint (NIB)
D34 X-band 20KW (NIB)
D34 NSP
D34 KA Encoder
D34 Azimuth Axle Replace
D34 CCG (NIB)
D45 Painting Maint (NIB)
D45 NSP
D46 HVAC Proposal
MDSCC
D65 NSP
D63 Servo Drive
D63 NSP NIB
D54 NSP
D54 X-band 20KW
D54 KA Encoder (NIB)
D54 Az Axle Replace (NIB)
DSS-26 Operational
DSS-55 Operational

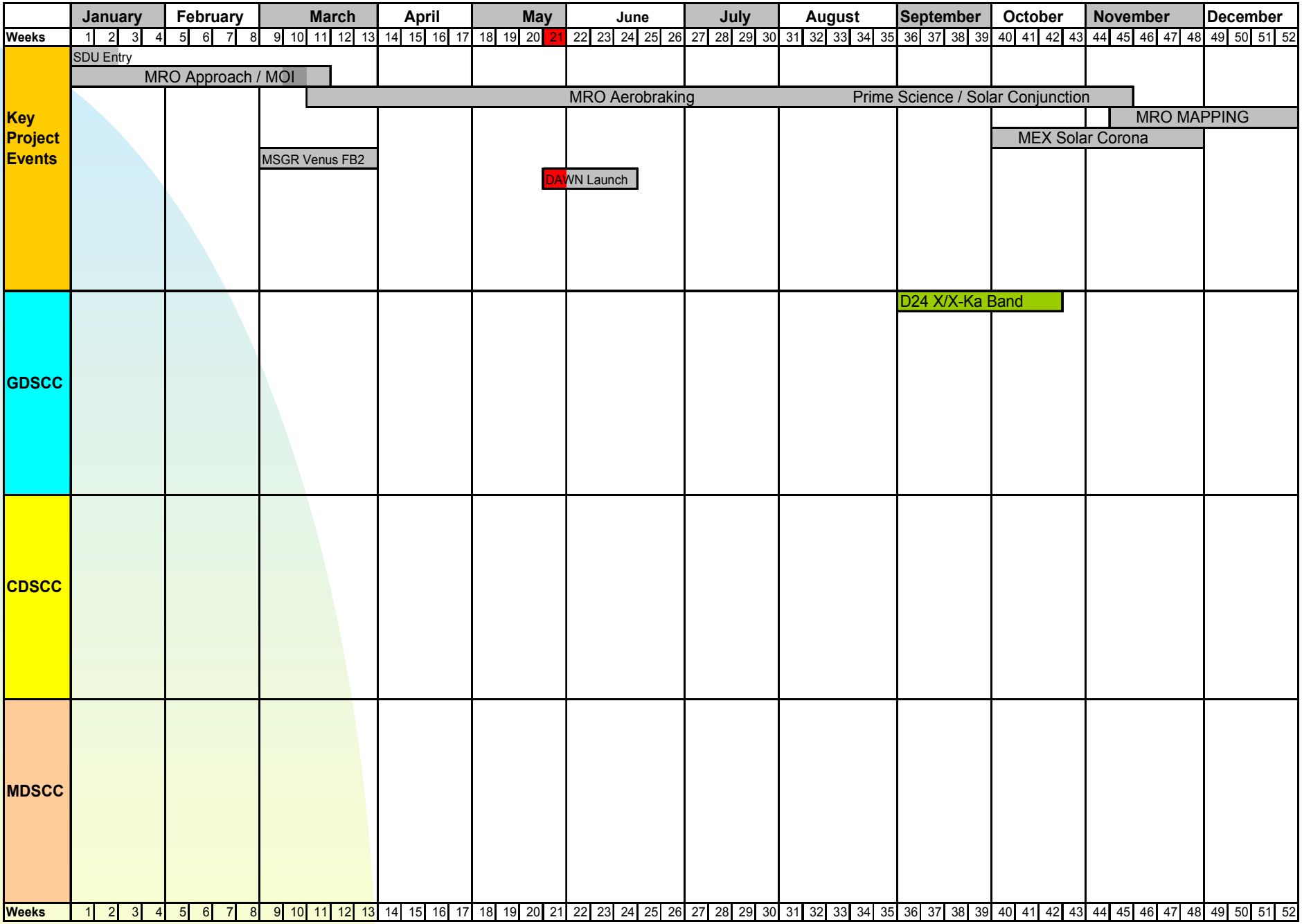
Antenna Downtime Status And Forecast 2004



Antenna Downtime Status And Forecast 2006



Antenna Downtime Status And Forecast 2006



Goldstone Solar System Radar

Martin A. Slade

March 20, 2003

NASA Jet Propulsion Laboratory

Joint Users Resource Allocation Planning Committee Meeting

Goldstone Solar System Radar (GSSR)

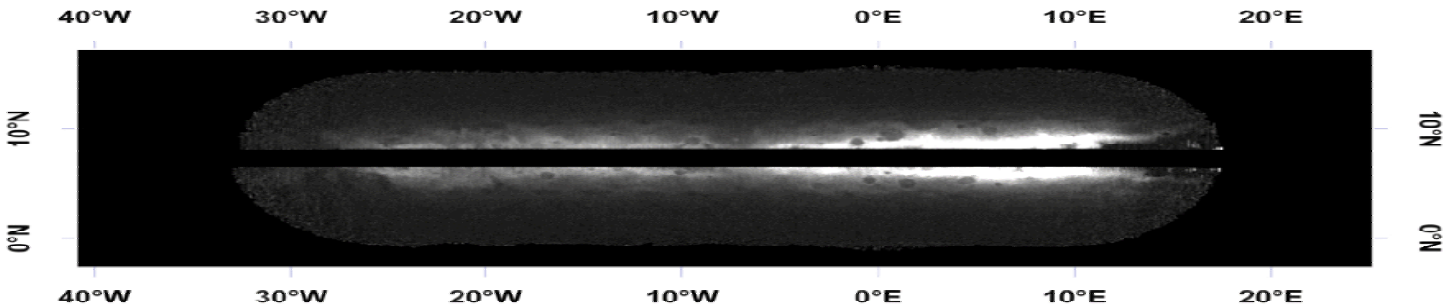
- Three abstracts involving GSSR observations have been submitted to 2003 IAU General Assembly: Margot et al., "Mercury Interior Properties From Measurements Of Librations"; Butler et al., "Radar Imagery of Mercury;" Slade et al., "Goldstone to Arecibo X-band Observations of Mercury's North Polar Regions."

- The GSSR tests of MSPA in March are scheduled as DEMO tracks on DOYs 81 and 87 (March 22 and March 28, 2003). The first date is a test with Mars Odyssey; the second with MGS.

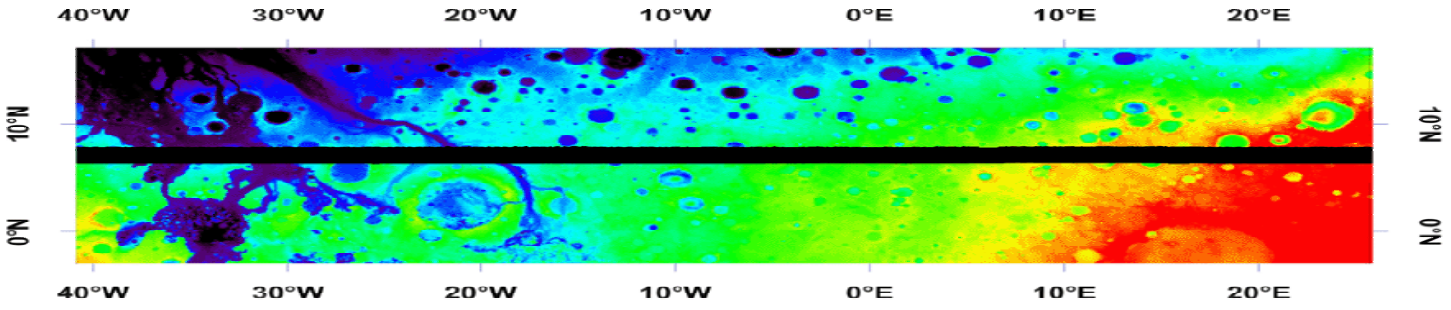
- The Mars Landing Site data analysis software for 4-station radar interferometry is now converging to what appears to be correct topography. (See next vu-graph.)

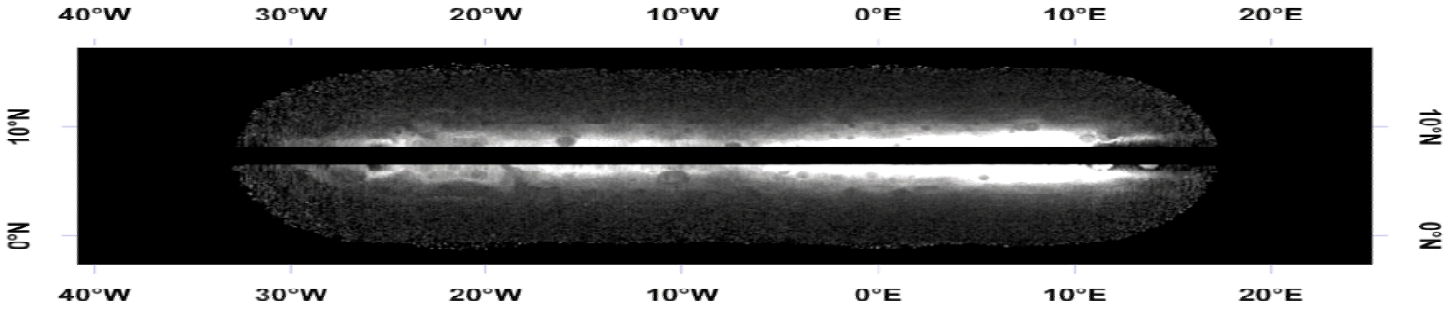
Terra Meridiani Landing Site

July 14, 2001



Bistatic





Quadstatic

Radio Astronomy

&

Special Activities

March 20, 2003

George Martinez

TEMPO
(Time and Earth Motion Precision Observations)

- January
  - DOY 006
    - DSS-15 was taken to stow due to high winds.
    - DSS-65 reported problems with the recorder.
    - Data tapes were sent to the JPL correlator for processing.
  - DOY 024
    - No problems were reported by by either DSS-15 or DSS-65.
    - Data tapes were sent to the JPL correlator for processing.
- February
  - DOY 046
    - No problems were reported by either DSS-15 or DSS-65.
    - Data tapes were sent to the JPL correlator for processing.
  - DOY 054
    - No problems were reported by by either DSS-15 or DSS-65.
    - Data tapes were sent to the JPL correlator for processing.
- Metrics
  - 90.2% of data time utilized

Cat M&E

- DOY 018
  - DSS-15 and DSS-65 reported no problems.
  - Data tapes were sent to the JPL correlator for processing.

- DOY 041
  - No problems were reported by DSS-15.
  - DSS-45 reported a problem with the NEU (Encryption Unit).
  - Data tapes were sent to the JPL correlator for processing.

- Metrics
  - 98.2% of data time utilized.

Gravity Probe-B (GPB)

- **BR088A**
  - **This experiment observed the source HR8703, which will be used as a guide star for the Gravity Probe-B mission.**
    - **This radio source was observed for extremely accurate position (Astrometry) and measurement of its proper motion in an inertial frame.**
    - **Only Astrometric VLBI can yield this accuracy.**
  - **No problems were reported by either DSS-14 or DSS-63.**
  - **Data tapes were sent to the Socorro correlator.**

- **Metrics**
  - **100% of the data time utilized.**

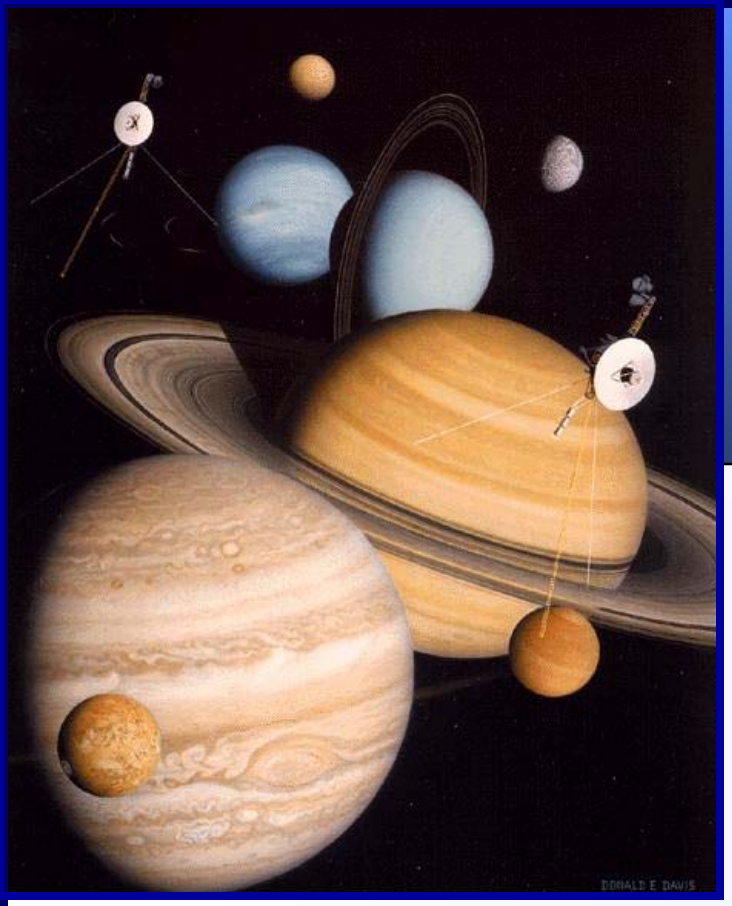
European VLBI Network (EVN)

- **E005A**
  - **K-Band experiment to investigate, in detail, the gas kinematics of the circumprotostellar gas disk of IRAS 00338+6312.**
  - **No problems were reported by DSS-63.**
  - **Data tape was sent to the JIVE correlator for processing.**

JIVE = Joint Institute for VLBI in Europe

Guest Observing

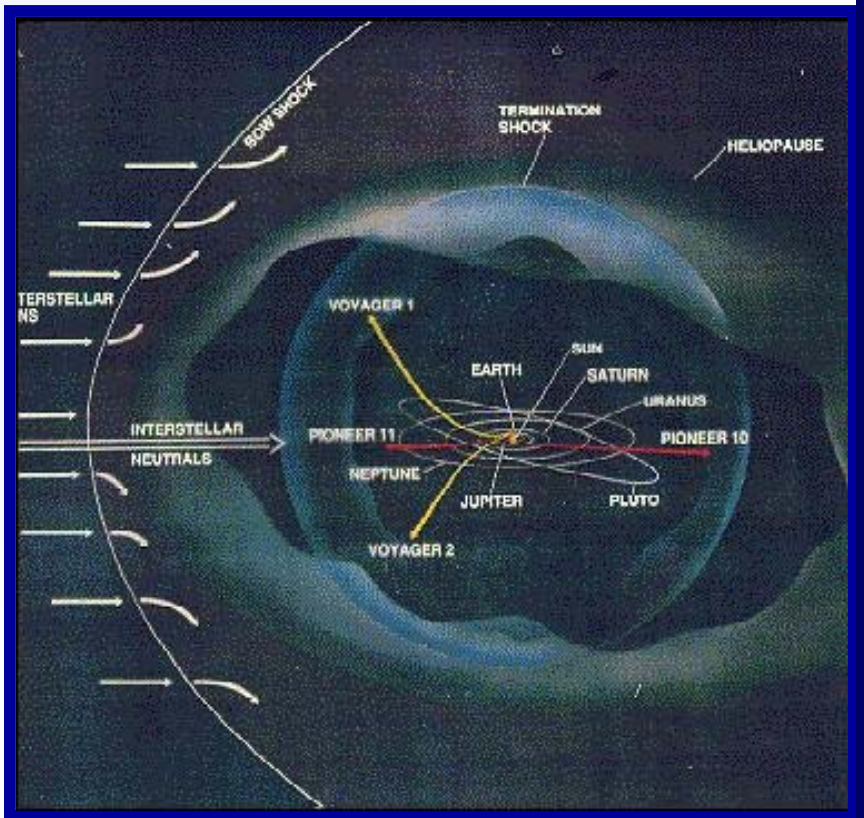
- **GP034**
  - **K-band experiment to determine whether the emissions of 2 recently discovered megamasers arise in a circumnuclear accretion disk or if they are caused by the interaction between the radio jets and a molecular cloud.**
  - **DSS-63 reported that the Radio Astronomy Controller (RAC) crashed and needed several reboots.**
  - **Data tape was sent to the Socorro correlator for processing.**



VOYAGER

FLIGHT OPERATIONS

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE



Jefferson Hall
March 20, 2003
NASA Jet Propulsion Laboratory

http://voyager.jpl.nasa.gov

VOYAGER

FLIGHT OPERATIONS

JPL

JPL NASA Jupiter Saturn Uranus Neptune and Beyond... VOYAGER I & II

FLIGHT SYSTEM STATUS

MISSION STATUS

VOYAGER 1

* HELIOCENTRIC DISTANCE – 87.8 AU, RTLT – 24h15m34s
* SPACECRAFT REMAINS HEALTHY
* MAJOR ACTIVITY: DTR PLAYBACK, PMPCAL, ASCAL, & MAGROL

VOYAGER 2

* HELIOCENTRIC DISTANCE – 69.7 AU, RTLT – 19h24m30s
* SPACECRAFT REMAINS HEALTHY
* MAJOR ACTIVITY: PMPCAL,MAGROL

VOYAGER

FLIGHT OPERATIONS

JPL

GROUND SYSTEM STATUS

(January 11, 2003 - March 20, 2003)

- DSN - OVERALL SUPPORT – GOOD

- Voyager 1: Most of the outages were caused by rain at DSS-65 and DSS-15. Others outages were caused by heavy snow at DSS-54, TGC problems at DSS-25, pointing problems at DSS-14, unknown APA problems at DSS-65, and antenna pointing problems at DSS-45.

- Voyager 2: Small outages were caused by brush fires at DSS-34, rain at DSS-43, and RNS problems at DSS-45.

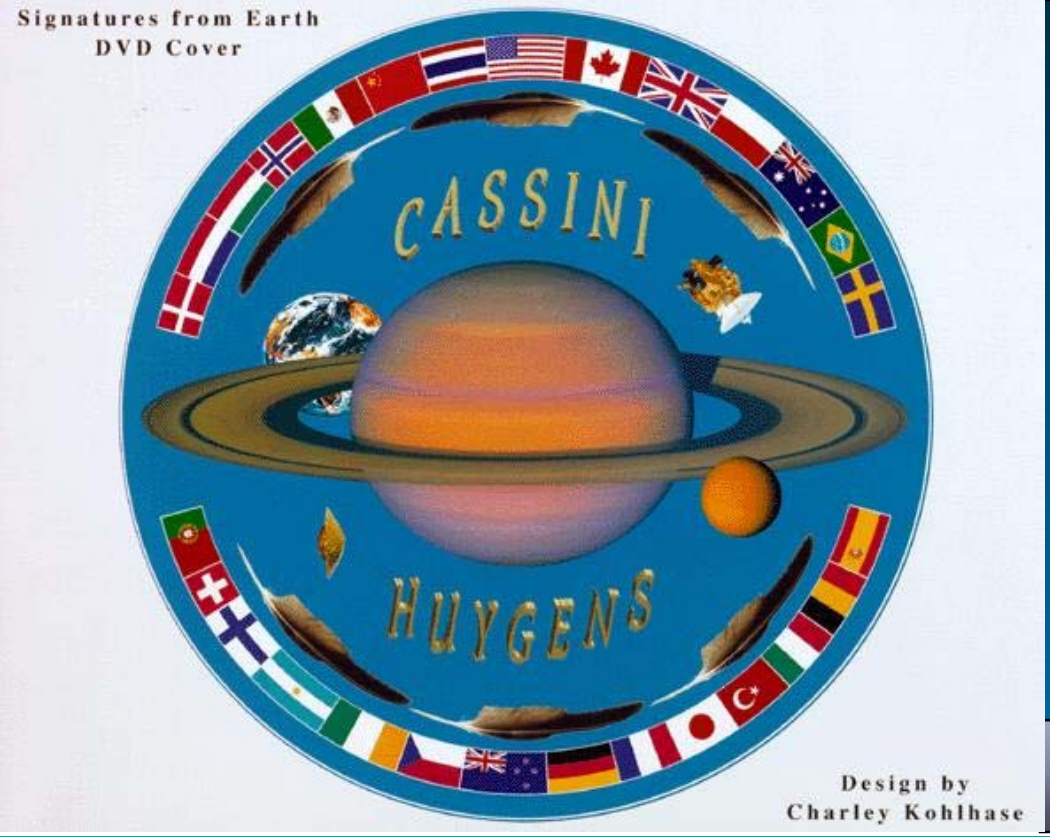
VOYAGER

FLIGHT OPERATIONS

TOTAL SUPPORT TIME, OUTAGE TIME, % OF OUTAGE TIME

S/C	SCHED. SUPPORT	ACTUAL SUPPORT	70M TIME	SIGNIFICANT OUTAGE TIME	% OF OUTAGE TIME
31	616.1	614.8	53.5	26.8(3.2)	5.0
32	523.3	523.3	47.5	4.8(1.3)	1.2

VOYAGER HOMEPAGE - http://voyager,jpl.nasa.gov



CASSINI

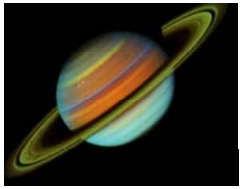
http://saturn.jpl.nasa.gov/cassini/index.shtml

Joint Users Resource Allocation Planning (JURAP) Committee Meeting

Dave Doody

March 20, 2003

NASA / Jet Propulsion Laboratory



Cassini / Huygens

- **In Space Science Subphase**
  - Space Science observations being interrupted for Flight S/W installation and checkout
  - GWE#2 was highly successful, with acquisition of 93% of expected data (99% at MDSCC).
  - ISS Article (& Cover) in Science Vol 299, March 7, 2003
  - Superior Conjunction RS Experiment scheduled for 30 days in June, July.
  - Approach Science mission phase begins in January
  - Tour advanced science planning continues
  - Extended mission possibilities under study
  - AACS Flight S/W for Tour installed, checkout completed successfully
  - CDS Flight S/W for Tour loaded aboard. Swap and checkout begin next week

- **Operations**
  - Daily ops going well, excellent DSN support; excellent NOPE support
    - NSP-configured support going smoothly:for the most part: DSS25, DSS43, DSS65
    - NSP Demo passes being scheduled for DSS15, DSS26, DSS34
    - Minor S/C instrument adjustments, cals, and anomalies being worked near real time
    - Conducted second Probe Relay Operational Verification Test (ground operations)
  - NOCC Hierarchical Display System is inoperative with NSP (as expected)
    - Cassini has long been involved with other flight projects inquiring whether a replacement can be obtained to complement DMD MON displays for realtime DSN visibility.

- **Public Engagement**
  - Bob Mitchell is presenting a Theodore Von Karman Lecture on Cassini/Huygens
    - Tonight 7pm PST in Von Karman, JPL
    - Tomorrow 7pm at Pasadena City College
  - Download and build a 1/250-scale model 34mBWG DSS*!*
    - www.jpl.nasa.gov/scalemodels

NOZOMI/PLANET-B

Presentation to:
Joint Users Resource Allocation Planning Committee

Mark Ryne

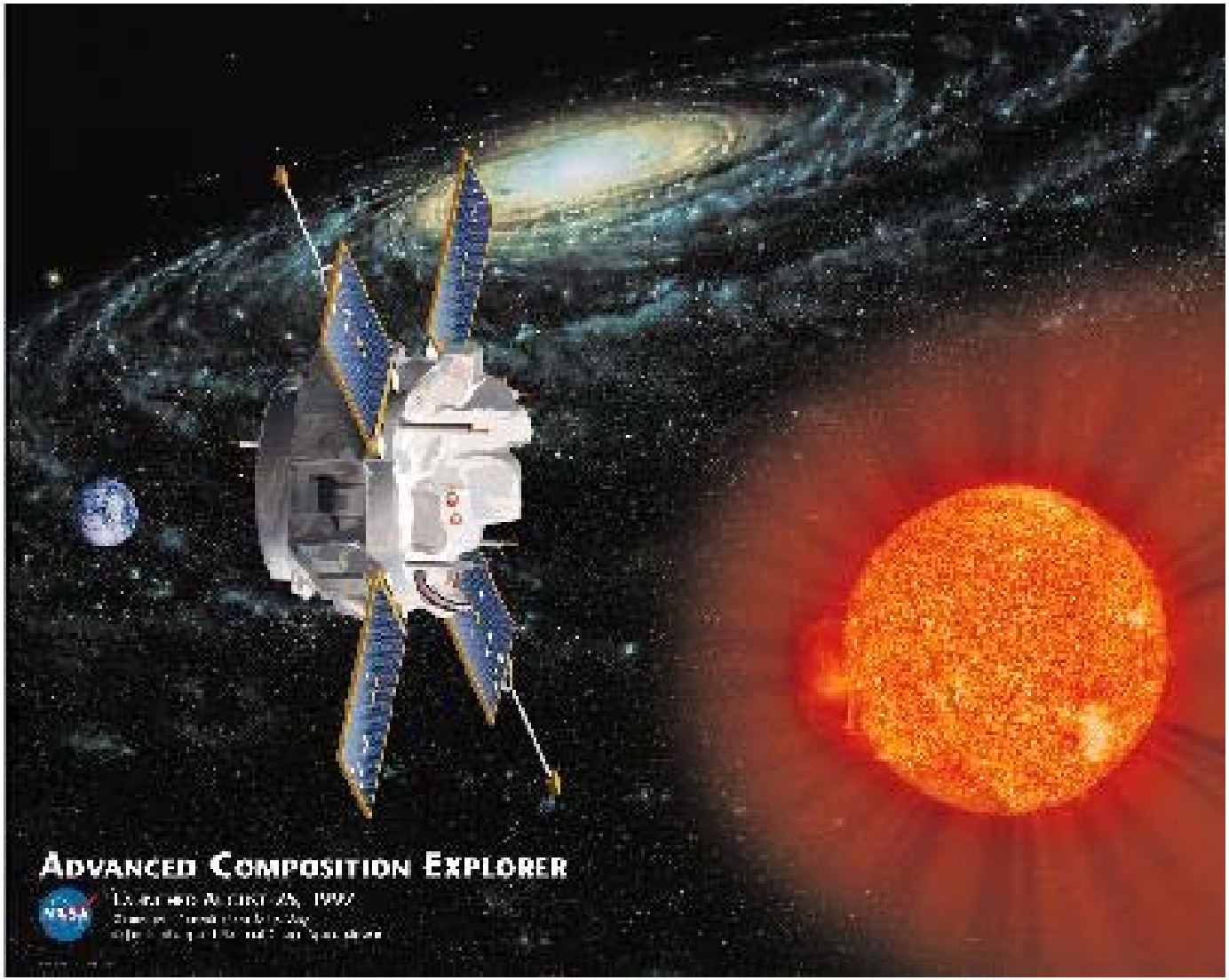
March 20, 2003

http://www.isas.ac.jp/e/enterp/missions/nozomi/cont.html

Status

Nozomi/Planet-B

- Spacecraft out of DSN contact
  - HGA off Earth point due to power and thermal issues
- Tracking scheduled to resume on April 27, 2003 (DOY 117)
  - Date of favorable antenna geometry still uncertain
- Tracking scheduled confirmed with ISAS through June 29, 2003 (Week 26)
- Mars arrival date to be determined sometime after Earth swingby on June 19, 2003



Advanced Composition Explorer

(ACE)

S. Waldherr

March 20, 2003

- The ACE Project is submitting the following for a new scheduling requirement.

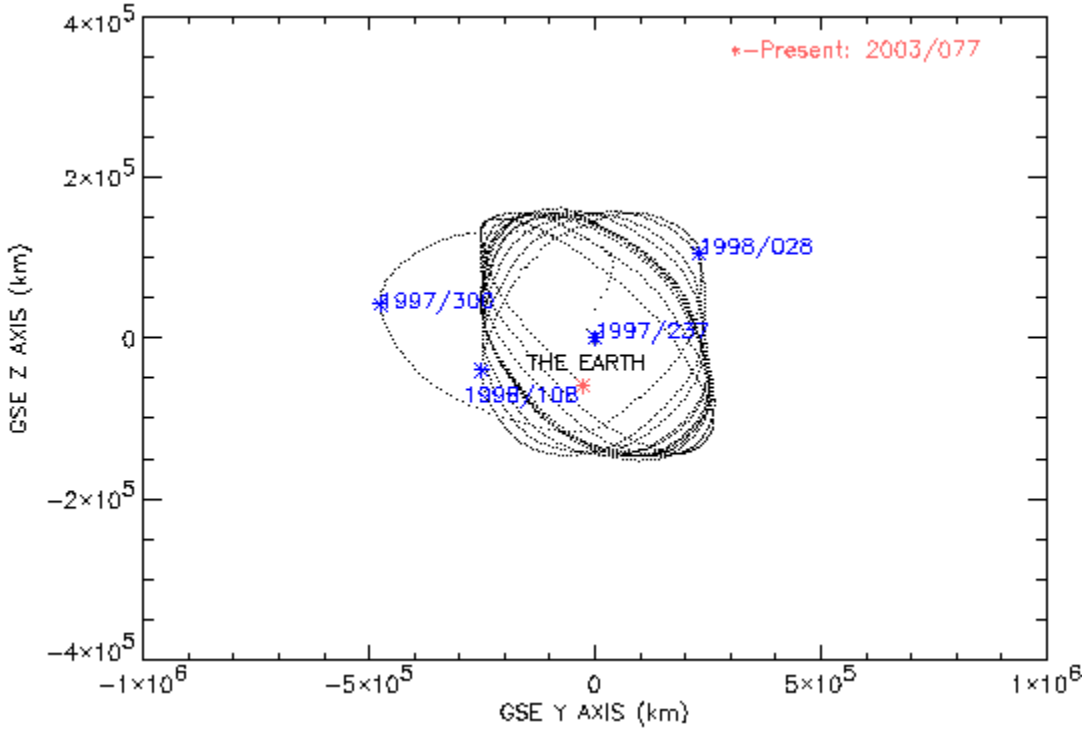
- ACE Project requires 3.5 hour/day on 34m antennas during the spacecraft orbit where the SEV (Sun-Earth-Vehicle) angle is too small to maintain 87648bps telemetry on 26m antennas but where reception is still possible for 34m antennas.

- These periods are expected to last 10 days or less every 3 months.

- Dates for predicted minimum SEV angles are: June 13, September 12, and December 8.

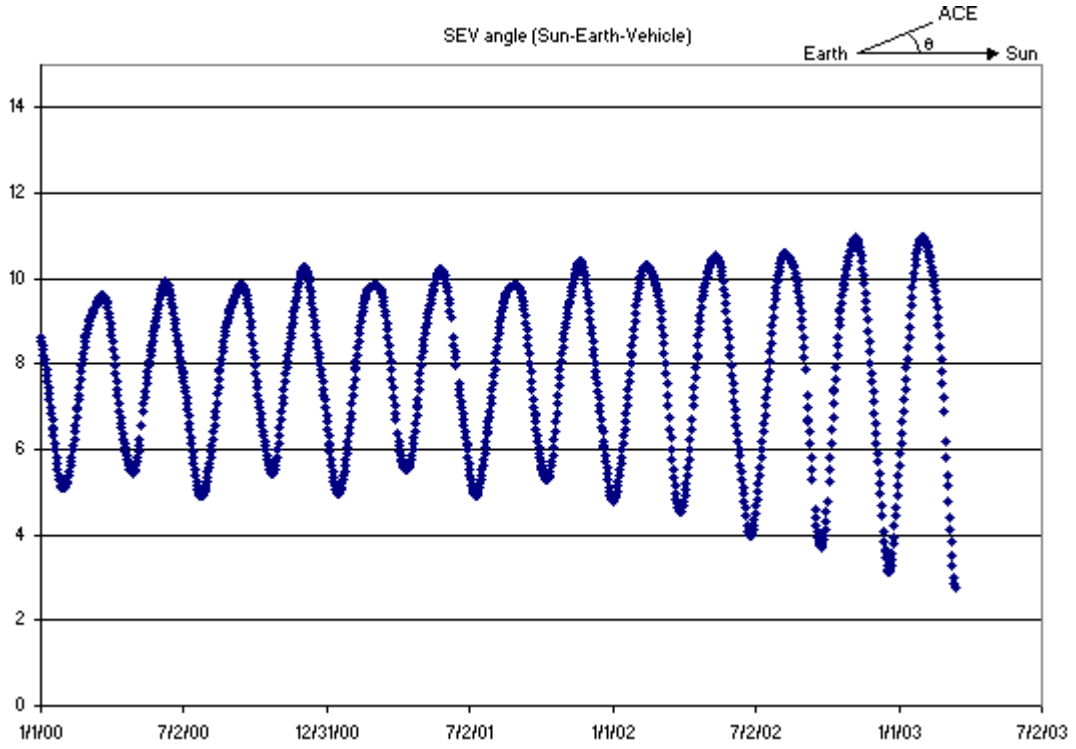
- The Project is in the process of determining the smallest SEV angle where telemetry can be maintained on 26m and 34m antennas.

- ACE's orbit is placing the spacecraft closer and closer to crossing in front of the sun.



http://www.srl.caltech.edu/ACE/ASC/DATA/browse-html/gse_color.html

- As the SEV (Sun-Earth-Vehicle) angle decreases, ground antennas will receive interference from the Sun. During these crossings there will be a range of SEV angles where 26m antennas will not be able to maintain good telemetry, but 34m antennas will.



Mars Global Surveyor

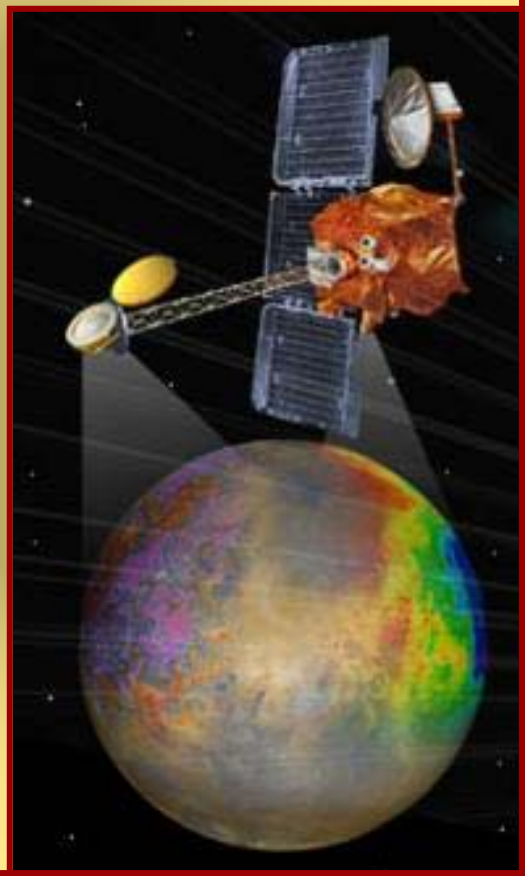
Flight Operations Status

Presentation to the

Joint Users Resource Allocation Planning (JURAP) Meeting

E. E. Brower

March 20, 2002



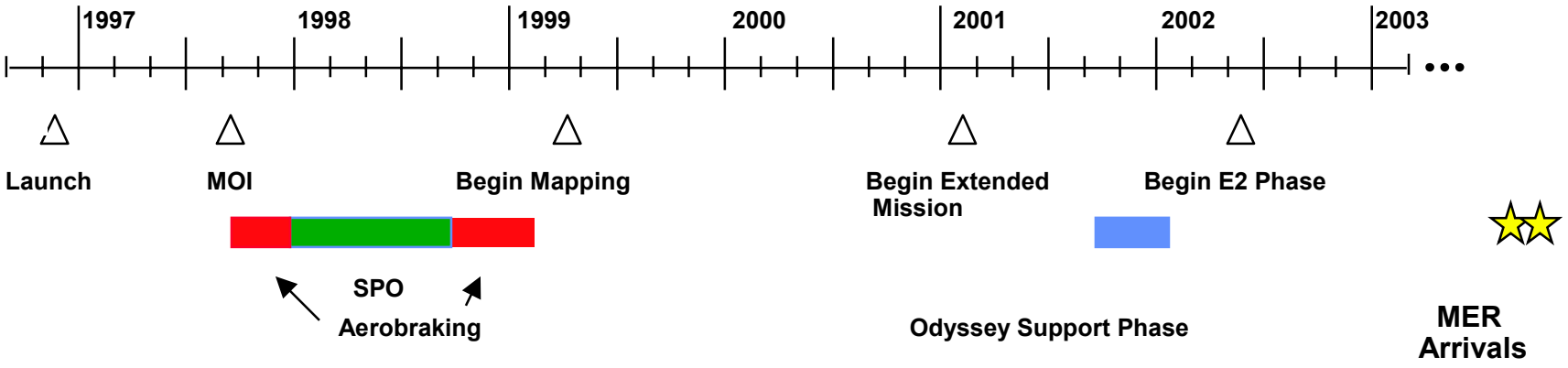
http://mars.jpl.nasa.gov/missions/present/globalsurveyor.html

AGENDA

- Project Snapshot
- Recent Events/Accomplishments
- Mission Assessment
- Comments

Mars Global Surveyor

Project Snapshot

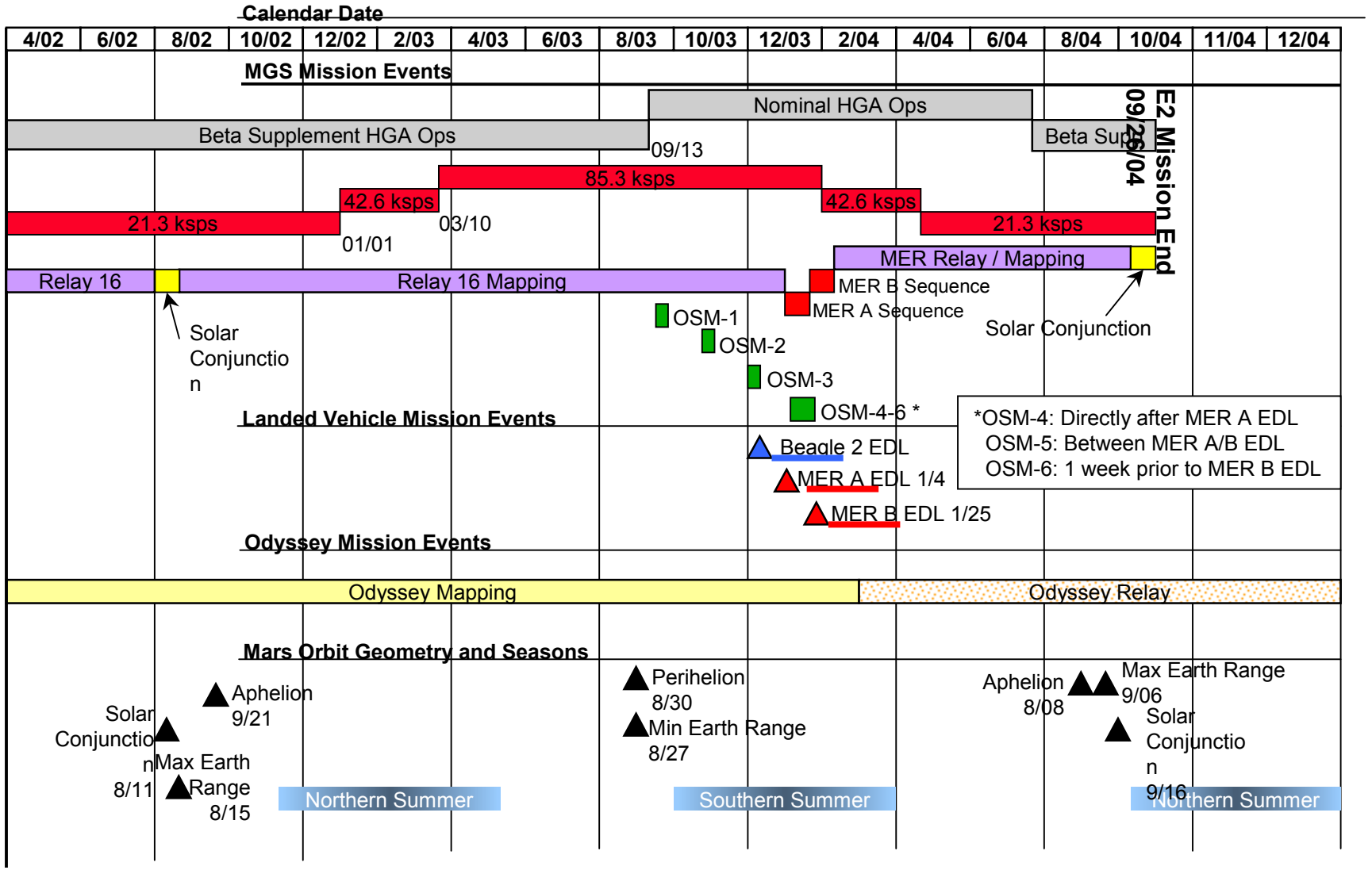


PHASE NAME	START DATE	END DATE	ORBITS	ORBITE
PRELAUNCH PHASE	**1994-10-12**	**1996-11-06**		
LAUNCH PHASE	**1996-11-06**	**1996-11-07**		
CRUISE PHASE	**1996-11-07**	**1997-09-12**		
INSERTION PHASE	**1997-09-12**	**1999-03-09**	**1**	**1683**
MAPPING PHASE(687DAYS)	**1999-03-09**	**2001-01-31**	**1**	**8505**
EXTENDED MISSION PHASE	**2001-02-01**	**2002-04-22**	**8506**	**13960**
EXTENDED EXTENDED (E2)	**2002-04-22**	**2004-08-19**	**13961**	**29416**

MGS

Mars Global Surveyor

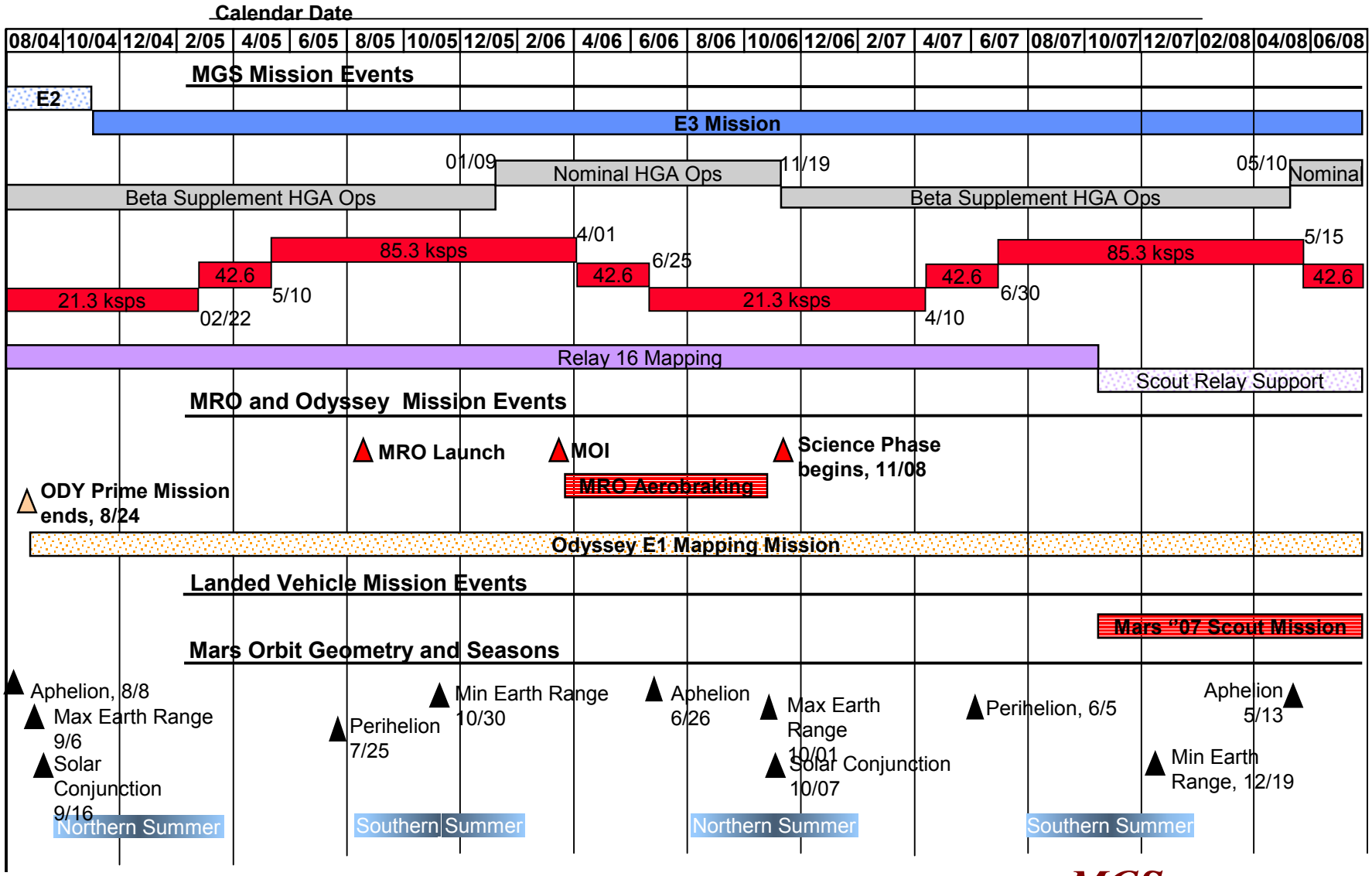
E2 Mission Timeline



MGS

Mars Global Surveyor

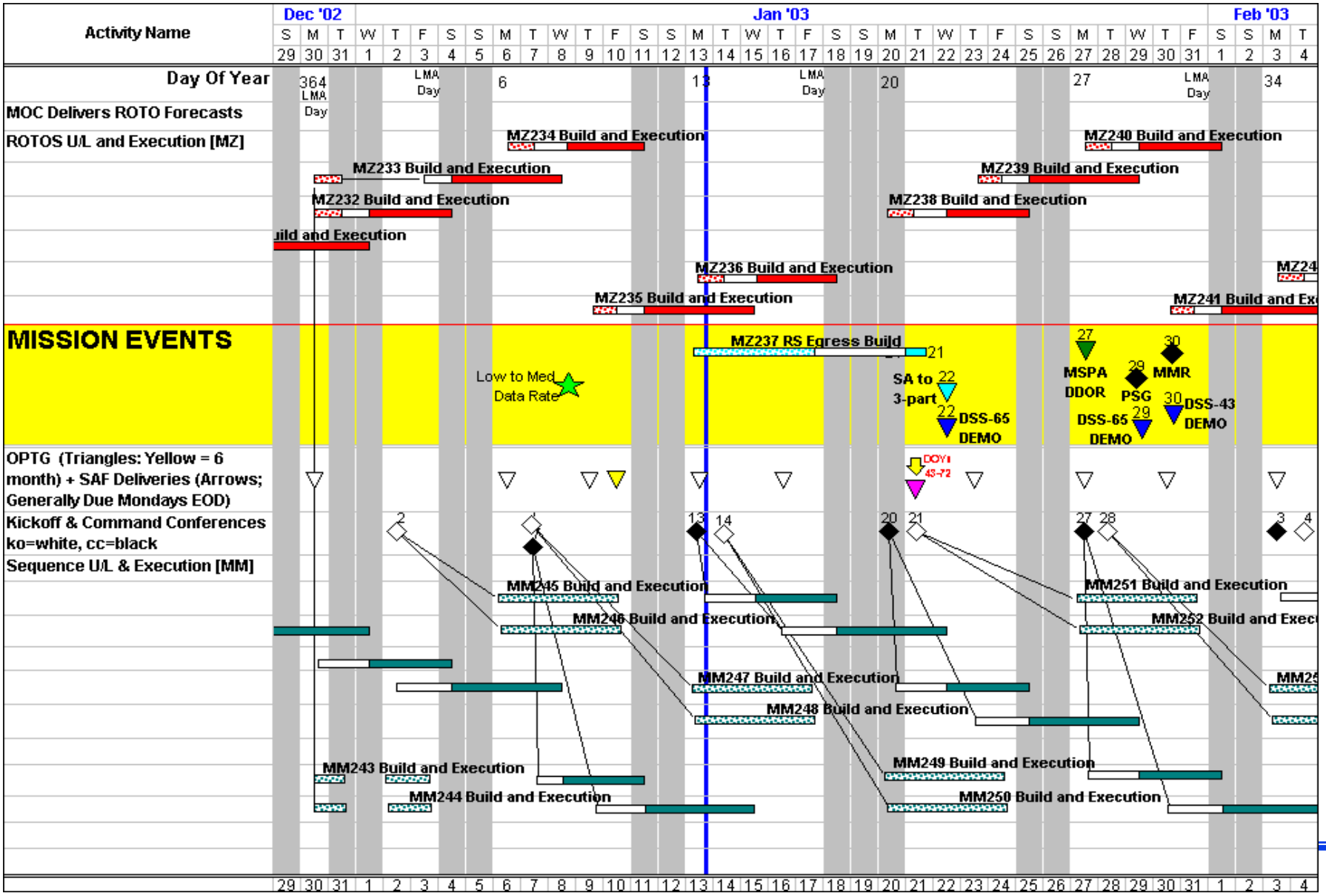
Proposed E3 Mission Timeline



MGS

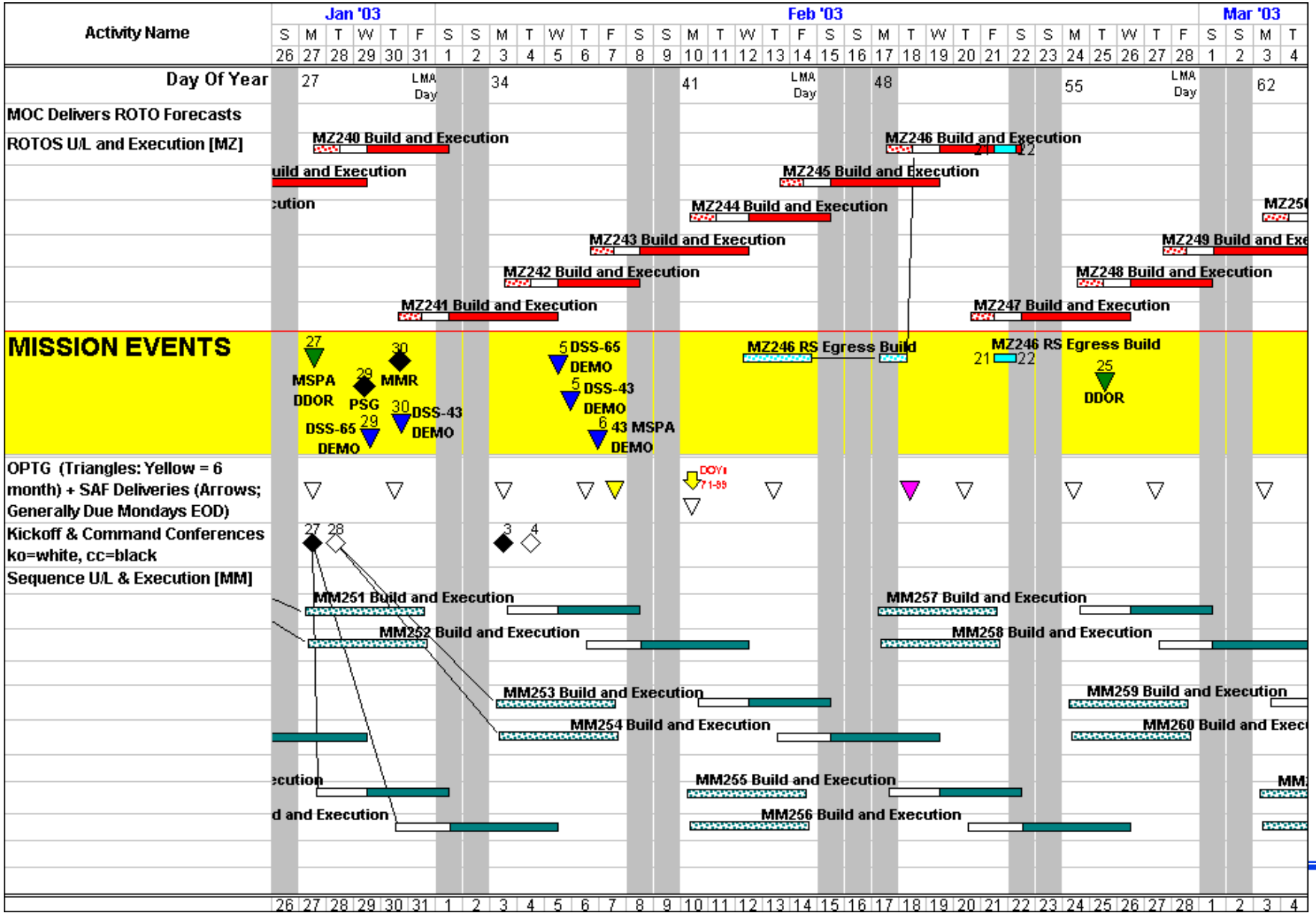
Mars Global Surveyor

Events



Mars Global Surveyor

Events



Recent Accomplishments

- **Successfully Accomplished 613 ROTOs to Date**
- **Reduced Fuel Consumption With Nadir Dwell Period 180 Min/Day**
  - **15.08 kg of Usable Hydrazine Remaining (20.34 kg Total Fuel Mass)**
  - **Average Daily Usage: 3.5 g/day**
  - **20-day spacecraft downtrack prediction improved to 30 m**
  - **MOC targeting accuracy improved 0.02 deg. to 0.005 deg.(300m)**
- **Completed Second Mars Year of Mapping in December**
  - **This extended mission data set added over 55,000 images to the 140,000 picture two year total**
- **Monthly DDOR Experiments Performed, Ending Monthly Observations in May 2003**
- **Performed monthly RS Egress occultations**
- **Working E3 (Extend Mission 3) detail (Sept 04 - FY 2008)**

- **Spacecraft is in good health.**
- **Expect to fulfill most extended mission objectives (complete MER site coverage may become E2 mission objective).**
- **Expect to satisfy MER EDL Requirements.**
- **Chances of operation through 2008 are good.**

- **None**

ulysses

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

http://ulysses.jpl.nasa.gov/

B. Brymer

March 20, 2003

NASA Jet Propulsion Laboratory

ULYSSES

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

- AN AUTONOMOUS SWITCHOVER FROM THE ELECTRONIC POWER CONVERTER 2/TRAVELING WAVE TUBE AMPLIFIER 2 (EPC2/TWTA2) TO EPC1/TWTA1 OCCURRED ON 16 FEBRUARY 2003. A PLANNED SWITHCBACK TO EPC2/TWTA2 UNITS WAS UNSUCCESSFUL. ANALYSIS IS ON-GOING. SPACECRAFT OPERATIONS CONTINUE NOMINALLY VIA EPC1/TWTA1.

- SPACECRAFT POWER AND THERMAL RECONFIGURATIONS AND INSTRUMENT CALIBRATIONS ARE PERFORMED AS REQUIRED

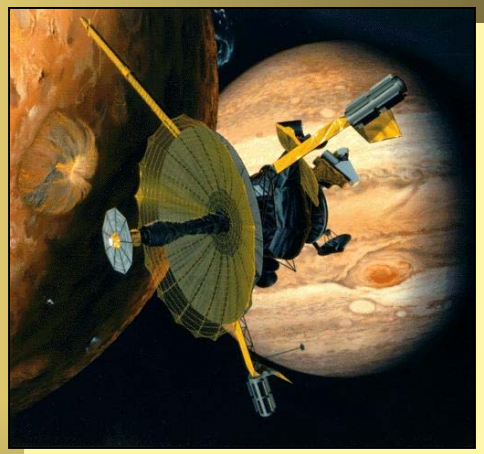
- SPACECRAFT EARTH POINTING MANEUVERS ARE BEING PERFORMED EVERY 4 DAYS

Galileo
Journey to Jupiter

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

Brad Compton

March 20, 2003



NASA / Jet Propulsion Laboratory

http://galileo.jpl.nasa.gov/

GALILEO MILLENIUM MISSION

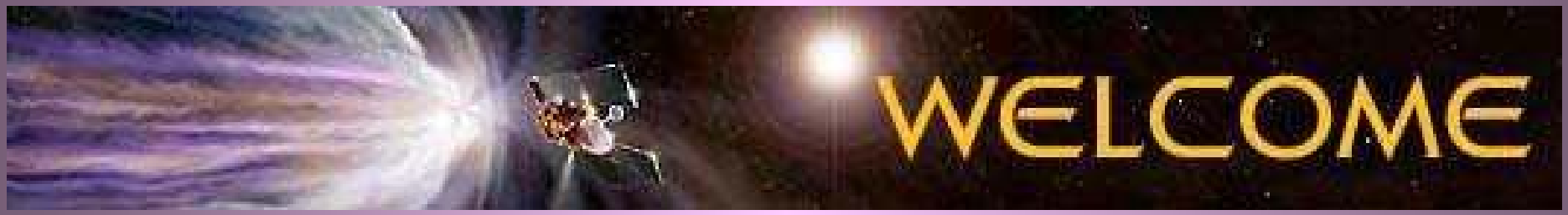
SIGNIFICANT EVENTS

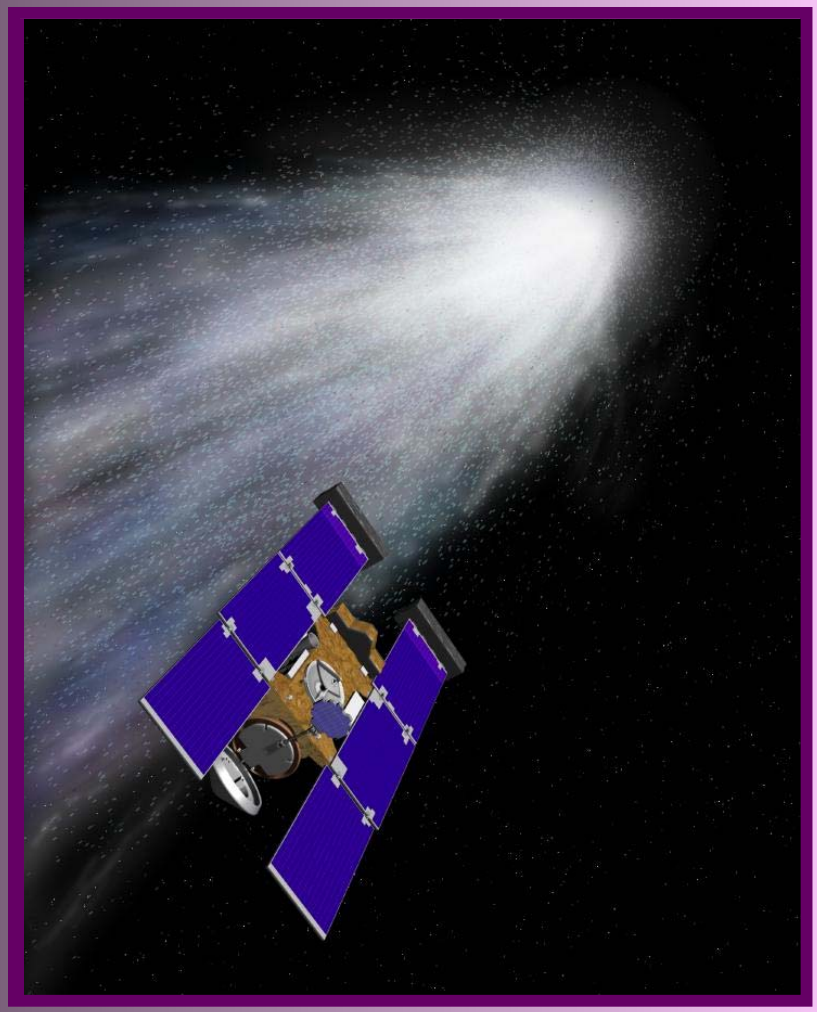
- **Playback was terminated February 28, 2003. More than two-thirds of the recorded observations were returned.**
- **The spacecraft has been configured to operate without ground intervention throughout its final orbit and ultimate impact into Jupiter on September 21, 2003.**
- **The J35 science sequence is onboard and is awaiting execution about 19 hours before impact.**
- **A contingency sequence is also onboard that could be kicked off 9 hours before impact.**
- **The Galileo team no longer monitors the spacecraft. We have instituted "passive monitoring" where the OPS Chief routinely monitors the weekly tracking passes and is provided a contact list in the event of problems.**
- **The Galileo project again extends its thanks for the cooperation we have and continue to receive from the other projects/users and the Resource Allocation Planning team.**

GALILEO MILLENIUM MISSION

PROJECT PLANS

- Continue to negotiate additional tracking time just prior to impact.
- Galileo impacts Jupiter September 21, 2003.
- This is the last planned Galileo JURAP presentation (until September?).





STARDUST

JOINT USERS
RESOURCE ALLOCATION
PLANNING COMMITTEE

R. E. Ryan
March 20, 2003
NASA Jet Propulsion Laboratory

http://stardust.jpl.nasa.gov

STATUS

SPACECRAFT IS HEALTHY (3/20/03)

PRESENTLY 2.6 AU from EARTH

00:43:11 RTLT

1.6 AU from SUN

BIT RATE REMAINS AT 504 bps (on HGA/34 HEF)

DECREASE IN SOLAR RANGE

SOME DECREASE IN EARTH RANGE

S/C APPROACHING 1ST OF DOUBLE CONJUNCTION PERIOD

CURRENT ACTIVITIES

- NAVCAM PERISCOPE CALIBRATION TEST IMAGES PARTIALLY DOWN.
  - IMAGES TAKEN JANUARY 24
  - 1ST REPLAY MISSED DUE TO GROUND ANTENNA PROBLEMS
  - 2ND REPLAY WAS PARTIAL BECAUSE OF A REPLAY ERROR
    - IMAGES RECEIVED WERE OF GOOD QUALITY FOR CALIBRATION
  - 3RD ATTEMPT TO FINISH REPLAY WILL BE AT DSS 14 ON MARCH 22

- CIDA INSTRUMENT IS NOW IN CRUISE OPERATION
  - IT WAS TURNED-ON ON FEBRUARY 4 AFTER THE DELAY FROM JANUARY 14

- DSMS SUPPORT HAS BEEN FAIR THIS PAST PERIOD
  - NSP DEMOS WITH DSS 43 AND 65 WERE GOOD
    DEMO'S COMING UP ON 15, 26, 34 AND 63

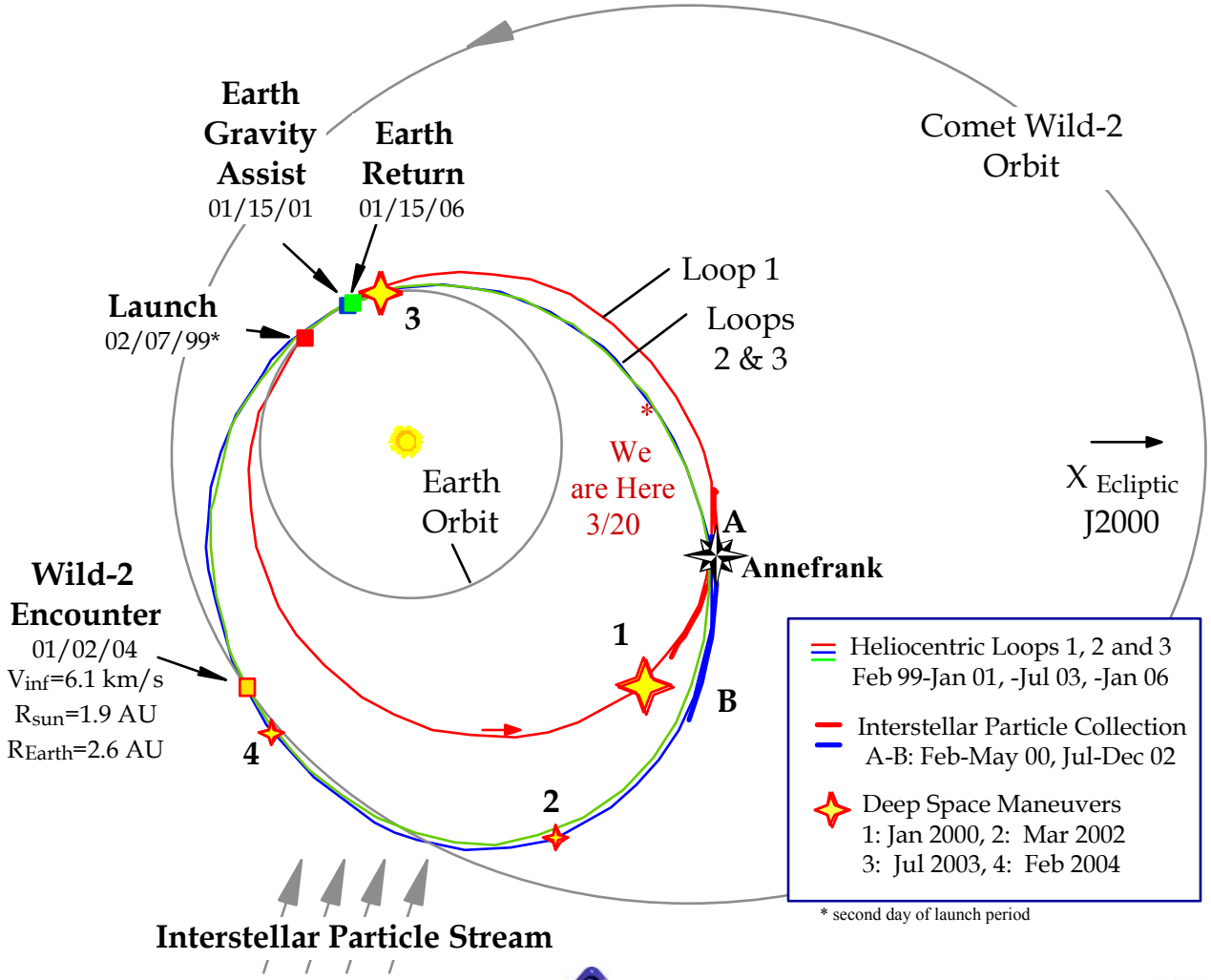
http://stardust.jpl.nasa.gov

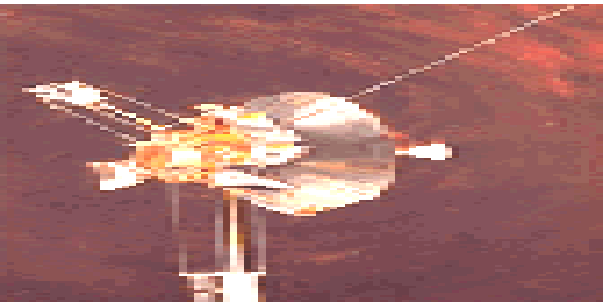
UPCOMING EVENTS

DSMS NSP DEMOS
DSS 15 ON MARCH 31
DSS 34 ON APRIL 3
DSS 63 ON APRIL 9 AND 17

SUPERIOR CONJUNCTION ON APRIL 9
BELOW 3 DEGREES FROM APRIL 2 THROUGH 18

DSM-3/TCM 8 - JUNE 17 AND 18, 2003
(TWO PARTS)


Earth Gravity Assist
01/15/01
Earth Return
01/15/06
Comet Wild-2 Orbit
Launch
02/07/99*
Loop 1
Loops 2 & 3
3
We are Here 3/20
Earth Orbit
X Ecliptic J2000
A
Annefrank
Wild-2 Encounter
01/02/04
Vinf=6.1 km/s
Rsun=1.9 AU
REarth=2.6 AU
1
B
4
2
Heliocentric Loops 1, 2 and 3
Feb 99-Jan 01, -Jul 03, -Jan 06
Interstellar Particle Collection
A-B: Feb-May 00, Jul-Dec 02
Deep Space Maneuvers
1: Jan 2000, 2: Mar 2002
3: Jul 2003, 4: Feb 2004
* second day of launch period
Interstellar Particle Stream



PIONEER 10

AMES RESEARCH CENTER

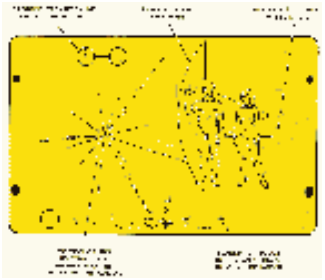
Report to

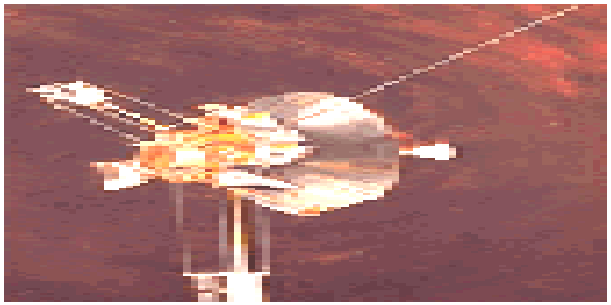
Joint Users Resource Allocation Planning Committee

R. E. Ryan

March 20, 2003

http://spaceprojects.arc.nasa.gov/Space_Projects/pioneer/PNhome.html





PIONEER 10 FINAL REPORT

ADVANCED CONCEPT STUDIES

NO CONTACT IN TWO ATTEMPTS THIS YEAR

ASSUMED THAT RTG POWER OUTPUT HAS DROPPED BELOW THE LEVEL REQUIRED FOR THE COMMUNICATION SYSTEM

THE LAST CONTACT WAS A ROUNDTRIP CYCLE ON DECEMBER 4 AND 5

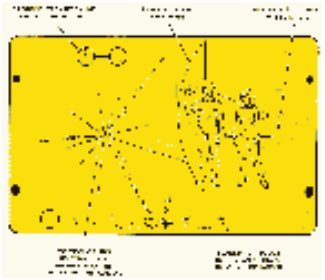
82 AU 22:25 RTLT

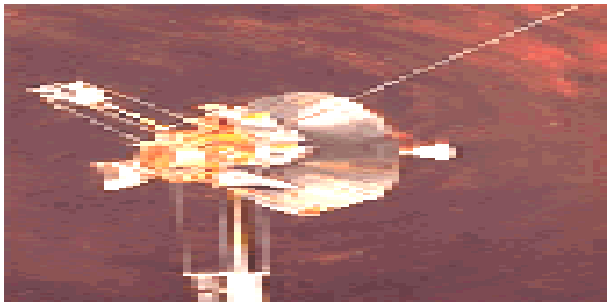
GOLDSTONE UPLINKED AT 350 KW

MADRID FOUND THE SIGNAL BUT COULD NOT LOCK TELEMETRY

- **THE SIGNAL LEVEL WAS -183 dbm WITH A -0.6 TO -1.3 db MARGIN**

ARECIBO PARTICIPATED AND REPORTED THE SIGNAL WAS WEAKER THAN WHAT THEY SAW IN THEIR MARCH '02 OBSERVATION.





PIONEER 10

Report to JURAP

PIONEER FINAL REPORT

PROJECT ESTIMATES THAT HIGH GAIN ANTENNA POINTING IS GOOD
BELIEVED TO BE SEEING THE EFFECT OF LOW RTG OUTPUT

AMES HAS CEASED PIONEER OPERATIONS
PRESS RELEASE ON FEBRUARY 25

http://amesnews.arc.nasa.gov/releases/2003/03_13AR.html

THANKS TO ALL WHO HAVE PARTICIPATED OVER THE YEARS
ITS BEEN GRAND